

REMARKS/ARGUMENTS

1. Amendments to the Specification

As it is self-explanatory that the optical disk drive is an electronic device, the applicant
5 believes that the amendments made to paragraph [0043] introduce no new matter.

Consideration of the specification amendments identified above is respectfully
requested.

2. Amendments to the Claims

10 Claims 1-4, 7-12, 14-16, 19, 21-22, 25-28, and 30-35 have been amended to replace
“optical disk drive” with “electronic device”. Additionally, independent claims 1, 11, 16, 21,
25, and 27 have been amended to further include the limitation directed to downloading
initialization data from an external host, which is fully supported by specification paragraphs
[0037] and [0038]. Claims 5, 6, 13, 17, 24, and 29 have been cancelled without prejudice or
15 disclaimer to the merits thereof. No new matter is introduced.

Claims 36 and 37 are newly added. Claim 36 includes limitations recited in original
claims 1 and 6, and claim 37 is a method claim corresponding to the claimed electronic
device of claim 36. Therefore, no new matter is introduced.

Consideration of the claim amendments identified above is respectfully requested.
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3. Claim Rejections – 35 USC 112

Claims 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for
failing to particularly point out and distinctly claim the subject matter which applicant regards
as the invention.

25 Response:

As taught by the cited reference, US 2004/0122989, Hall states that command codes (i.e.,
firmware) resided in the ROM storage are typically copied to RAM to improve performance
(Fig. 1 and paragraph [0001], lines 8-9). Furthermore, in paragraph [0007], lines 10-11, Hall

also points out that the command code is **downloaded into the device RAM and executed**. In short, storing the firmware in the volatile memory for achieving better firmware execution performance is well known in the pertinent art. Therefore, the applicant respectfully notes that a person of ordinary skill in this art can readily appreciate that the claimed limitation of
5 firmware stored in and executed from volatile memory is clear and definite. As claims 1-35 have particularly pointed out and distinctly claimed the subject matter which applicant regards as the invention, withdrawal of the rejections under 35 U.S.C. 112 is respectfully requested.

10 **4. Double Patenting**

Claims 1-4, 21 & 23 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 10/710,097.

Response:

15 As the filing date of the instant application No. 10/709,735 is prior to the copending application No. 10/710,097, a terminal disclaimer of the copending application No. 10/710,097 in compliance with 37 CFR 1.321(c) is submitted to overcome the claim rejections based on the nonstatutory double patenting ground. Acceptance of the submitted terminal disclaimer is respectfully requested.

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5. Claim Rejections – 35 USC 103

Claims 1-2 and 5-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al., US 2004/0122989 A1 (hereinafter “Hall”), and Hu, US 6,170,043 B1 (hereinafter “Hu”), or alternatively over Hall and the admitted prior art.

25 **Response:**

Claim 1

Claim 1 has been amended to define that the interface unit further downloads initialization required for initializing the electronic device from the host. Upon careful review

of Hall's disclosure, the applicant finds no description pertinent to downloading initialization data required for initializing the peripheral device from the host computer. Therefore, the applicant asserts that the claimed feature "downloading initialization data required for initializing the electronic device from the host" is neither taught nor suggested by Hall, Hu
5 and the admitted prior art, either alone or in combination.

Examiner further states that Hu does not disclose that the firmware is executed while stored in the volatile memory, but it would be obvious to one of ordinary skill in the art to use the firmware updating method of Hall for the optical disk drive circuit of Hu as Hall teaches that the firmware is executed while stored in the volatile memory. The applicant respectfully
10 disagrees. In col. 6, lines 39-46, Hu teaches using the extra memory to serve as an execution memory space to execute all update action such that the update process can be executed in a faster speed. In other words, Hu teaches a **firmware updating** mechanism with reduced firmware updating time. However, Hall merely teaches downloading the requested command code into the device RAM for execution and then removing the downloaded command code
15 from the device RAM when the function executed by the download command code completes (paragraph [0007], lines 10-14). In other words, Hall discloses that the command code is downloaded and executed when requested, and then removed from the peripheral device when the requested function is completed. According to Hall's teachings, the applicant respectfully notes that Hall does not teach a method of updating firmware stored in the
20 peripheral device as the downloaded command code is temporarily stored in the volatile memory only and then immediately **removed** from the peripheral device when the requested function provided by executing the downloaded command code is completed. If Hall's command code download and execution scheme is applied to the optical disk drive of Hu, the modified optical disk drive of Hu fails to update the firmware stored in the flash memory of
25 the optical disk drive. In short, the combined result renders the optical disk drive of Hu **unsatisfactory for its intended purpose of updating the firmware stored in the non-volatile memory using the proposed extra memory**. The applicant respectfully asserts that there is no suggestion or motivation to modify Hu's disclosure with reference to Hall's

teachings.

In light of above reasons, the applicant believes that the rejections under 35 U.S.C. 103(a) have been overcome.

5 Claims 11, 16, 21, 25 and 27

Referring to the above arguments under Claim 1, the applicant believes claims 11, 16, 21, 25 and 27 have been placed in condition for allowance.

Claims 5-6, 13, 17, 24, and 29

10 Claims 5-6, 13, 17, 24, and 29 have been cancelled.

Claims 2, 7-10, 12, 14-15, 18-20, 22-23, 26, 28, and 30-35

Claims 2, 7-10, 12, 14-15, 18-20, 22-23, 26, 28, and 30-35 are dependent upon respective independent claims 1, 11, 16, 21, 25 and 27, and should be allowed if claims 1, 11,
15 16, 21, 25 and 27 are found allowable.

Claims 3 & 4 are rejected under 35 U.S.C. 103(a) as being obvious over Hall, in view of Hu, as applied to Claim 1 above, and further in view of Kamihara et al. (US PGPub # 2002/0169904), herein Kamihara.

20 **Response:**

As stated in above arguments, claim 1 has been placed in condition for allowance. Claims 3 and 4 are dependent upon claim 1, and should be allowed if claim 1 is found allowable.

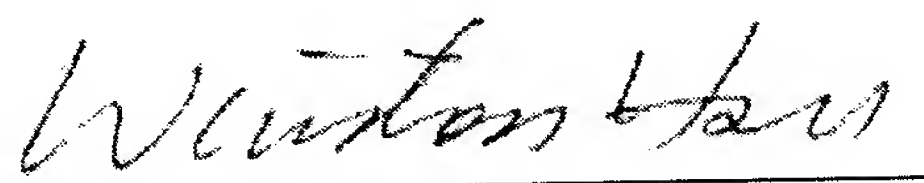
25 **6. Patentability of New Claims 36 and 37**

Claims 36 and 37 are directed to the first embodiment shown in Fig. 2 of applicant's disclosure, and claim that the non-volatile memory stores initialization data required for initializing the electronic device without storing operational firmware. Regarding Hall's

disclosure, Hall teaches that the control firmware is stored in read-only memory, and a message is sent from the control firmware to the host computer for a download of command code necessary to execute the requested function (paragraphs [0006] and [0007]). As one can see, the control firmware stored in the read-only memory is not initialization data required for
5 initializing the peripheral device. Furthermore, upon careful review of Hall's disclosure, the applicant finds no description pertinent to using a non-volatile memory to store the initialization data without storing any operational firmware therein. In addition, referring to above arguments under Claim 1, there is no suggestion or motivation to modify the optical disk drive of Hu in view of teachings of Hall for anticipating the claimed feature of executing
10 firmware while stored in the volatile memory. Therefore, the applicant asserts that the claimed limitations of claims 36 and 37 are not taught or suggested by Hu and Hall, either alone or in combination. In light of at least above reasons, the applicant believes that the newly entered claims 36 and 37 have been placed in condition for allowance.

15 Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,



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25 Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)